PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PD020113	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP 03/13837	International filing date *(day/month/year)* 06.12.2003	Priority date *(day/month/year)* 20.12.2002
International Patent Classification (IPC) or both national classification and IPC G11B7/12		
Applicant THOMSON LICENSING S.A. ET AL.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
15.07.2004	25.01.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Damp, S Telephone No. +49 89 2399-7420

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 03/13837

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-10 as originally filed

Claims, Numbers

1-8 received on 28.10.2004 with letter of 22.10.2004

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-8
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-8
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-8
	No:	Claims	

2. Citations and explanations

   see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: EP-A-0 986 057 (SEIKO INSTR INC) 15 March 2000 (2000-03-15)
D2: US 2001/026422 A1 (NISHIMOTO HIDEKI) 4 October 2001 (2001-10-04)
D3: EP-A-0 501 477 (SHARP KK) 2 September 1992 (1992-09-02)
D4: US-A-5 508 857 (HORITA MASAMI) 16 April 1996 (1996-04-16)

The documents D1 - D4 describe a slider-loading mechanism according to the preamble of claim 1.
Different solutions for activating the lever are shown, e.g. a magnetic swing (D4), a spring loaded lever (D2) or other mechanical swinging (D3); D1 does not describe a specific lever realization.
The present application seeks to realize an alternative lever mechanism.
This is performed by a lever actuated via a gear mechanism which is driven by a loading pin when a rack is moved.
No hint can be found in the documents of the SR for this realization. Moreover, this solution seems not to be obvious in view of the general knowledge of the skilled man.
Consequently, the present claim 1 as well as the dependent claims are considered to be new and to be based on an inventive step.

Patent Claims

1. A slider-loading mechanism for an optical drive, having a slider (2) which is fastened on a resilient arm (6) and is lowered onto the surface of an optical storage medium (8) and/or raised from the surface of the optical storage medium (8), and a loading element (1) separate from the resilient arm (6), the loading element (1) penetrating between the surface of the optical storage medium (8) and the resilient arm (6) and being actuated via a lever (3) for acting on the resilient arm (6) to lower and/or raise the slider (2), **characterized** in that the lever (3) is actuated via a gear mechanism (5, 7) having a loading pin (7), which is provided with a gearwheel, and a rack (5), which is arranged in a displaceable manner and interacts with the gearwheel of the loading pin (7).

2. The slider-loading mechanism as claimed in claim 1, **characterized** in that a linear drive is provided for the rack (5).

3. The slider-loading mechanism as claimed in claim 2, **characterized** in that the gearwheel of the loading pin (7) is actuated by moving the rack (5) relative to the gearwheel with the linear drive.

4. The slider-loading mechanism as claimed in one of claims 1 - 3, **characterized** in that the gearwheel of the loading pin (7) is actuated by moving the gearwheel relative to the rack (5) using a rough tracking function.

5. The slider-loading mechanism as claimed in one of claims 1 - 4, **characterized** in that it further includes displacement stops for the rack (5) for ensuring that the slider (2) is always lowered and/or raised in a reading/writing region of the storage medium (8).

6. The slider-loading mechanism as claimed in one of claims 1 - 5, **characterized** in that in the lowered position the resilient arm (6) is not in contact with the loading element (1).

7. The slider-loading mechanism as claimed in one of claims 1 - 6, **characterized** in that it further includes an adjusting means for adjusting the prestressing of the resilient arm (6).

8. A unit for reading from and/or writing to optical recording media, **characterized in that** it has a slider-loading mechanism as claimed in one of claims 1 - 7.